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PATENT #6

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: David B. Anderson, et al. )  
Serial No.: 860,719 )  
Filed : May 7, 1986 ) Group Art Unit: 125  
For : GROWTH PROMOTION )  
Docket No.: X-5683C )

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Sir:

Applicants wish to bring to the Examiner's attention four additional references which may be of interest when reviewing the claims in the above-captioned application. The references are listed on the attached modified PTO 1449 form. The first three references are abstracts of talks dealing with the use of a  $\beta$ -adrenergic agonist to alter fat and muscle deposition in animals. The abstracts are found in Federal Proceedings, Vol. 42, Nos. 3 and 4, published in 1983.

All of the abstracts describe the effects on animals of a  $\beta$ -adrenergic agonist known as clenbuterol. Clenbuterol is a  $\beta$ -phenethanolamine having a tert.-butyl group attached to the nitrogen position, and has 3,5-dichloro-4-amino substitution on the phenethanol phenyl ring. Clenbuterol is specifically described by Kiernam et al. in the American Cyanamid EPO 26298 already of record. Abstract No. 3069 describes a talk by Baker et al. concerning the use of clenbuterol in lambs. The reference reports that clenbuterol is effective in producing increased muscle and reduced fat deposition when given to lambs.

Abstract No. 3070 describes a talk given by C. A. Ricks et al. describing the use of clenbuterol for altering fat and

muscle deposition in steers.

Abstract No. 2203 describes a talk by Dalrymple et al. describing the use of clenbuterol to alter carcass composition in poultry. The reference also reports clenbuterol caused weight gain improvements and feed efficiency improvements.

All of these abstracts describe that the  $\beta$ -agonist, clenbuterol, is effective in repartitioning energy so as to improve the carcass quality by way of lowering the fat content and increasing the protein or muscle content. These teachings, coupled with the teaching of Baile et al. in U.S. Patent No. 3,818,101, already of record, that certain  $\beta$ -phenethanolamines promote food consumption, might be construed as a suggestion that all  $\beta$ -adrenergic agonists or stimulants are active for promoting growth in animals and producing improved effects upon carcass quality.

The  $\beta$ -phenethanolamine embraced by the now-pending claims is a  $\beta$ -adrenergic agonist. While the compound required by the now-claimed invention is quite unrelated to clenbuterol, and is nowhere described by Baile et al., the broad teachings of the references could be construed to suggest that all  $\beta$ -agonists, including Applicants' compound, are effective for promoting growth and improving carcass quality in animals.

The reference by Borsini et al. from Life Sciences, Vol. 30, pages 905-911, clearly establishes that any suggestion that all  $\beta$ -adrenergic agents are effective for promoting growth and improving feed efficiency is in error. The reference describes the administration of salbutamol to rats. Salbutamol is a  $\beta$ -phenethanolamine having a tert.-butyl group attached at the nitrogen position and a 3-hydroxymethyl-4-hydroxy substitution on the phenethanol phenyl ring. Salbutamol is a

known  $\beta$ -adrenergic stimulant and is used as a bronchial dilator. The Borsini reference clearly establishes that when Salbutamol is administered to rats there is a dose related reduction in food intake. The reference specifically states, at page 905, that there is "... no evidence that systemically administered adrenergic stimulants can effectively activate these central sites involved in feeding."

Applicants therefore submit that any mechanistic argument that all  $\beta$ -agonists are effective in promoting growth and altering carcass composition in animals is without merit. Indeed, the Borsini reference clearly establishes that not all  $\beta$ -agonists have such effects. Consequently, Applicants firmly believe the claims now before the Examiner remain allowable and courteously request such favorable consideration in light of all of the references now of record.

Respectfully submitted,



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